

What is claimed is:

1. A solid titanium catalyst component being obtained by a process comprising:

a step of bringing (a) a liquid magnesium compound into contact with (b) a liquid titanium compound in the presence of (c) an organosilicon compound having no active hydrogen in an amount of 0.25 to 0.35 mol based on 1 mol of the magnesium compound (a); and

a step of elevating the temperature of the resulting contact product (i) to a temperature of 105 to 115 °C and maintaining the contact product (i) at this temperature, said solid titanium catalyst component comprising magnesium, titanium, halogen and the organosilicon compound having no active hydrogen (c).

15 2. A solid titanium catalyst component being obtained by a process comprising:

a step of bringing (a) a liquid magnesium compound into contact with (b) a liquid titanium compound in the presence of (c) an organosilicon compound having no active hydrogen in an amount of 0.25 to 0.35 mol based on 1 mol of the magnesium compound (a); and

a step of elevating the temperature of the resulting contact product (i) to maintain the contact product (i) at a given temperature of 105 to 115 °C, wherein the organosilicon compound having no active hydrogen (c) is added in an amount of not more than 0.5 mol based on 1 mol of the magnesium compound (a) while the temperature of the

contact product (i) is elevated from a temperature lower by 10 °C than the temperature maintained to a temperature at which the elevation of the temperature is completed, or after the elevation of the temperature is completed, so as 5 to bring the compound (c) into contact with the contact product (i),

said solid titanium catalyst component comprising magnesium, titanium, halogen and the organosilicon compound having no active hydrogen (c).

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3. An ethylene polymerization catalyst comprising:

[I] the solid titanium catalyst component as claimed in any one of claims 1 and 2, and

[II] an organometallic compound.

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4. An ethylene polymerization process comprising polymerizing ethylene or copolymerizing ethylene and a comonomer in the presence of the catalyst as claimed in claim 3.